

CASE REPORT

Treatment of Gastrointestinal Symptoms and Mood Disorder With Physical Medicine and Supplementation: A Case Report

Adam Dombrowski, ND, MSOM; Krista Imre, ND; Steven Sandberg-Lewis, ND; Heather Zwickey, PhD

Abstract

This report details the naturopathic treatment of a 28-y-old female with a 1 y history of abdominal pain, heartburn, and constipation as well as longstanding anxiety and depression. Clinical evaluation ruled out organic causes of dyspepsia such as peptic ulcer disease, *Helicobacter pylori* infection, and nonsteroidal anti-inflammatory drugs-induced dyspepsia. Treatment

consisting of soft-tissue manipulation, homeopathic prescription, nutritional supplementation, and lifestyle modification greatly improved gastrointestinal and mental-emotional symptoms after 2 wk. Improvement in anxiety and depression was substantiated with Patient Health Questionnaire-9 and Generalized Anxiety Disorder-7 questionnaires.

Adam Dombrowski, ND, MSOM; Krista Imre, ND; Steven Sandberg-Lewis, ND; and Heather Zwickey, PhD; are all affiliated with the National University of Natural Medicine in Portland, Oregon.

Corresponding author: Adam Dombrowski, ND, MSOM
E-mail address: browskia@gmail.com

Introduction

The differential diagnosis of chronic abdominal pain is extensive. Because dyspepsia is sometimes secondary to organic disease, primary causes must first be ruled out. This includes peptic ulcer disease, nonsteroidal anti-inflammatory drug (NSAID)-induced dyspepsia, gastric malignancy, and gastroesophageal reflux disease. When no underlying pathology is identified, functional dyspepsia is often the appropriate diagnosis.¹

Hiatal hernia syndrome (HHS) is a subset of functional dyspepsia. HHS is the functional correlate to the sliding hiatal hernia and occurs when the gastroesophageal junction and upper portion of the stomach protrude through the esophageal hiatus of the diaphragm.² HHS is diagnosed when hiatal hernia-like symptoms are present, but without imaging evidence of herniation.³ Occasionally, the stomach may not actually protrude into the chest, but exert upward pressure against the diaphragm, causing symptoms. This syndrome, although little known and rarely considered in clinical diagnosis, may be caused by an inherited wide diaphragmatic hiatus, trauma to the

abdomen or increased intra-abdominal pressure (eg, pregnancy, obesity, any space-occupying lesion of the abdomen, etc). Common symptoms include reflux, regurgitation, abdominal pain, dysphagia, easy satiety, anxiety, shallow thoracic breathing, rapid respiratory rate, nonproductive cough, chest oppression, stitching chest pains, discomfort or bulging below the inferior margin of the ribs, and flatulence (Appendix A).

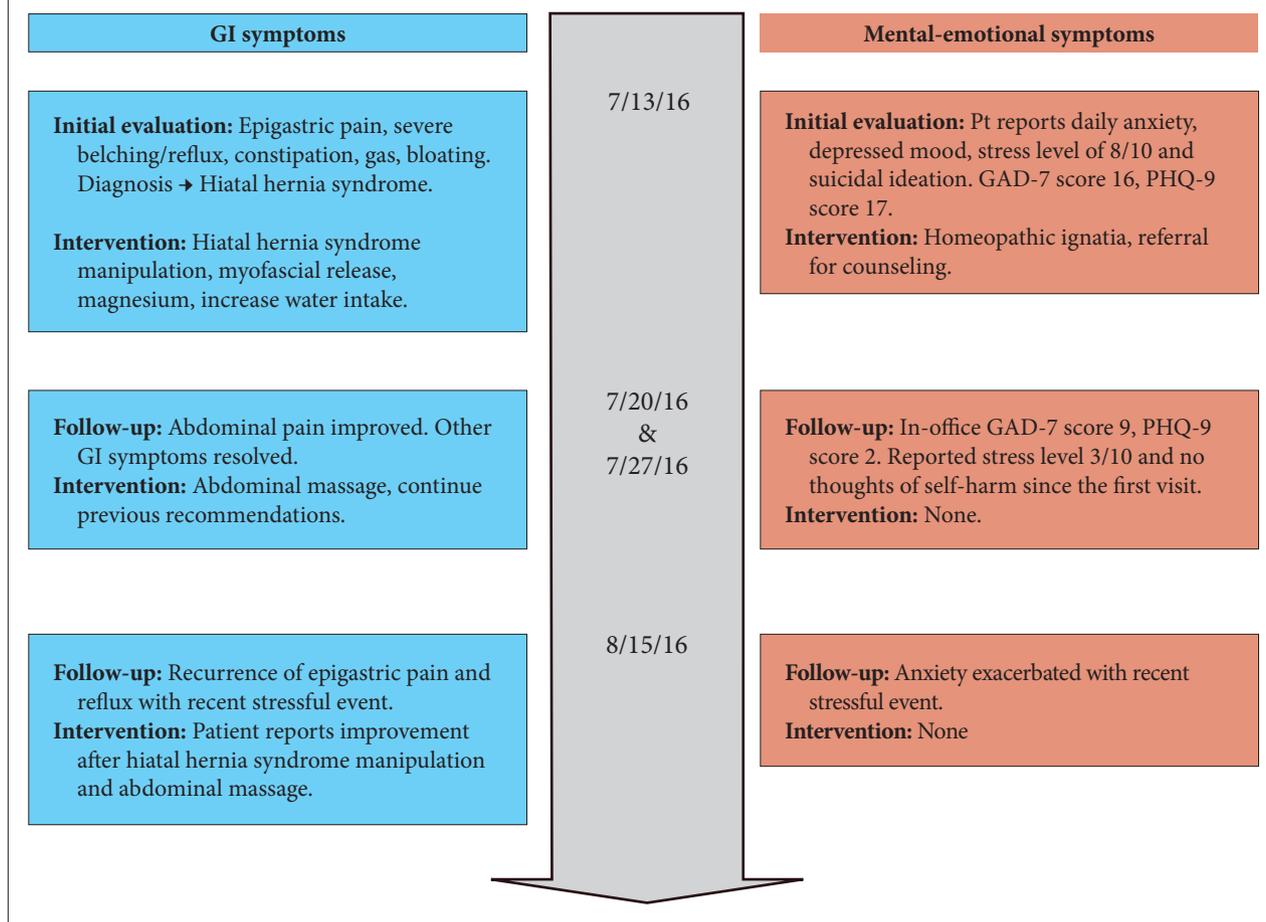
Some naturopathic physicians correct this condition by manipulating abdominal soft-tissue with a “hiatal hernia syndrome manipulation.”^{3,4} Dyspepsia and other gastrointestinal symptoms may be relieved by this manipulation or treated with lifestyle modification, homeopathic prescriptions and nutritional supplementation. If dyspeptic symptoms persist despite conventional and alternative treatments, then endoscopy should be performed to establish a primary cause.

Patient Case

The patient was a 28-year-old female presenting in July 2016 reporting abdominal pain, heartburn, anxiety, and low mood. The abdominal pain and heartburn were described as “burning and achy” in quality with relatively prompt onset approximately 1 year prior. The pain was persistent and primarily localized to the epigastric area and pharynx. She also reported infrequent pain in the periumbilical and left lower quadrant regions. Stress, pressure, and food consumption all exacerbated the pain, though she was unable to identify specific dietary triggers. The pain was present throughout the entire day, every day, with no correlation of symptom severity to her menstrual

Figure 1. Medical History an Patient Timeline

28-y-old female with onset of gastrointestinal symptoms in June 2015 with normal TSH, CBC, and *H pylori* IgG serum level of 3.8 units (reference range: 0 to 20 units). One month prior to initial visit is normal vitamin B₁₂, lipid panel, CBC, CMP, and TSH; HbA_{1c} 5.9%, vitamin D 29 ng/mL. Reported history of anxiety and depressive disorder.



cycle. She also experienced daily belching, bloating, flatulence, and nausea but no vomiting. She was regularly having 3 bowel movements per day identified as Bristol Stool Chart types 3 and 4, usually associated with straining. On rare occasions, blood was visible on the toilet paper but not in the toilet. She denied mucous, grease, or other blood in the stool and had no previous diagnosis of hemorrhoids. No anorectal examination was performed.

She reported feeling anxious, depressed, and stressed on a daily basis, which occurred more when she was socially isolated. She rated her stress level at the first office visit, 8 of 10 (10 being the most stress) and admitted to having recent suicidal thoughts but stated that she was not likely to act on them. She was regularly taking fluoxetine for low mood, propranolol 40 mg BID to manage her anxiety, and haloperidol 0.5 mg BID for prevention of hallucinations. The reported hallucinations were not evaluated further. These medications were managed by a psychiatrist in Iran, whom she contacted once per month

by phone. She had no stress reduction habits and was not participating in counseling therapy at the time. Other than a history of “depressive disorder,” the patient had no other diagnoses. There was also a positive family history of depression with her mother and maternal aunt.

She had no history of alcohol, tobacco, or recreational drug use nor hospitalizations or surgeries other than tonsillectomy. Her average daily fluid intake consisted of approximately 1 cup of coffee and 1 cup of water. Review of systems was positive for dizziness approximately once weekly, low back pain, infrequent sensations of her heart racing without chest pain, bruising and bleeding easily, daily fatigue, and tendency toward feeling cold. She denied significant weight change in the previous 6 months. One year prior her *H pylori* blood IgG level measured 3.8 units (reference range: 0 to 20 units). The most recent lab results 1 month prior revealed TSH of 3.016 mU/L. She had never had any GI-specific labs performed, nor imaging or other tests completed.

Table 1. Treatment Interventions

Goal	Intervention	Rationale/References
Resolve heartburn, abdominal pain, and anxiety	Hiatal hernia syndrome manipulation	Reposition the stomach properly below the diaphragm. ³
	Abdominal soft-tissue massage	
Relieve constipation	Oral magnesium (300 mg daily, increase to tolerance)	Relax gastrointestinal smooth muscle. ^{5,6}
	Increase water intake	
Stabilize mental and emotional symptoms	Homeopathic ignatia (single dose of 200C potency)	Alleviate depression ^{7,8}

Abdominal exam revealed normal appearance and bowel sounds, no abdominal bruits, and a soft quality to palpation. There was moderate tenderness to palpation in the epigastric area and left lower quadrant. She rated tenderness of the HHS reflex point 3 of 4. This point is located immediately left of the xyphoid process on the inferior margin of the costal cartilage. A more thorough abdominal exam could not be performed due to abdominal tenderness. Palpation revealed hypertonic muscles of the entire back and neck region bilaterally, particularly the suboccipital muscles and paraspinal muscles in the lower thoracic region. Her body mass index was 29.87 kg/m². The patient consented to have her case used as a case report.

Diagnostic Assessment

There are numerous organic causes of dyspepsia. NSAID-induced dyspepsia, peptic ulcer disease, irritable bowel syndrome, gastric malignancy, gastroesophageal reflux disease, and functional dyspepsia are underlying possibilities in this case. The patient was not taking any NSAID medications, so NSAID-induced dyspepsia was excluded from diagnostic consideration. Peptic ulcer disease was unlikely because the patient had no history of NSAID use and a negative test for *H pylori*, 2 of the most common causes of peptic ulcer disease. Anemia was ruled out per CBC 5 weeks prior to the visit. *H pylori*-associated gastritis was ruled out with a negative serum antibody test 1 year prior to the first visit. Malignancy could not be ruled out without further evaluation due to her fatigue, a concerning red flag symptom that can be associated with malignancy.

This patient’s symptoms were possibly consistent with gastroesophageal reflux disease, functional dyspepsia, and irritable bowel syndrome, pending further workup with endoscopy and other GI-specific testing. Functional dyspepsia is the principal diagnosis in cases when thorough evaluation fails to identify an organic cause of disease.¹ Because GI-specific testing was never performed, an organic cause of the patient’s diffuse chronic abdominal pain and heartburn had not yet been identified or excluded. Further diagnostic assessment might have been indicated if symptoms had not improved with treatment.

Naturopathic doctors often find the symptoms of gastroesophageal reflux disease, functional dyspepsia, and occasionally irritable bowel syndrome to be due to HHS, especially in nonemergent cases where a full gastroenterological workup has not yet been performed. The treatment strategy was empirically selected based on the consistency of the patient’s symptoms and physical exam findings with a functional condition. Several findings that correlate with HHS were present including increased body mass index, history of heartburn, abdominal pain, fatigue, anxiety, tenderness of the HHS reflex point as well as hypertonicity of T9-T11 paraspinal and suboccipital muscles (Appendix A).

Finally, at the initial visit a generalized anxiety disorder-7 score of 16 indicated a severe anxiety disorder. Her patient health questionnaire-9 score of 17 indicated moderately severe depression.

Intervention and Outcomes

At the initial visit, an HHS manipulation was performed in office to treat the suspected HHS by repositioning the stomach. Other than mild and momentary discomfort during the manipulation, the patient tolerated the treatment well and there were no complications.

Soft tissue massage of the entire back region was performed as well as myofascial release of suboccipital muscles and T9-T11 paraspinal muscles, as these muscles tend to be hypertonic in patients with HHS.³ Abdominal massage was performed at the first follow-up visit.

Referral for mental health counseling was made, although the patient did not follow through with counseling therapy despite reminders at each successive appointment. Practice of a daily abdominal breathing technique was recommended.

To address her constipation, we recommended she increase water intake to 3 to 5 glasses per day and take 300 mg of magnesium daily to optimize gastrointestinal function.^{5,6} She was instructed to slowly increase the dose of magnesium to bowel tolerance (maximum dose of 1000 mg daily).

Patient Perspective

After the *H pylori* test came back negative and could not explain the pain and heartburn, I had been having for more than 1 year, I was frustrated. I was unaware that the hiatal hernia manipulation was even an option, but it relieved my symptoms more than anything. Dr Sandberg-Lewis's treatments provided me the support I needed to live with less pain and anxiety.

At the next 2 follow-up visits, her abdominal pain had diminished in both frequency and intensity. Its effects on her daily life had improved from constantly bothersome to infrequent and mild discomfort. Her heartburn, gas, bloating, and constipation had all resolved. Due to decreased straining with bowel movements, she had not used any more than 300 mg of magnesium during the first 1 to 2 weeks.

At a follow-up visit 1 month later, the dyspepsia had recurred due to a particularly stressful event. Another HHS manipulation and abdominal massage were performed as she reported that these therapies had created the most relief thus far. The HHS reflex point was rated 4 of 4 tenderness before the manipulation and 0 of 4 tenderness after the manipulation.

The homeopathic remedy *Ignatia amara* was also prescribed at the initial visit. This remedy was selected based on a highly individualized set of symptoms: depressed mood, grief, anger, abdominal discomfort, and indigestion exacerbated by stress, persistent belching, sensation of lump in the throat, and hypersensitivity to pain.^{7,8} A single dose of 200 C potency was given in office. One week later, the patient reported feeling significantly less stressed, anxious, and depressed. This improvement was substantiated by a change in the generalized anxiety disorder-7 score from 16 (probable anxiety disorder) to 9 (moderate anxiety) as well as in the patient health questionnaire-9 score from 17 (moderately severe depression) to 2 (mild depression). She denied having any thoughts of self-harm since the initial visit.

Discussion

In most patients with dyspepsia or heartburn, the primary etiology is unknown. HHS is a common yet overlooked cause of heartburn and epigastric pain. Mental and emotional distress often exacerbates dyspepsia and other gastrointestinal symptoms.

An 8-week trial period of a PPI is considered first-line therapy in patients with dyspepsia who test negative for *H pylori*.⁹ Use of proton pump inhibitors (PPIs) for patients with functional dyspepsia have a relative risk reduction of 10% to 12% and a number needed to treat of 15.^{10,11} Long-term use of CFs may be associated with an increased risk of community-acquired pneumonia, dementia, and kidney damage.^{12,13,14} Although PPIs are generally considered safe and are well tolerated by most patients,

adverse effects can occur. The most common side effects include headache, nausea, vomiting, and diarrhea, reported in 1% to 5% of cases.¹⁵ Rebound acid hypersecretion is also possible when PPI therapy is discontinued.^{16,17} Other approaches with less risk of complications have been explored, including mindfulness, relaxation techniques and nutritional support.¹⁸

HHS is one cause of epigastric pain and heartburn. Due to increased intra-abdominal pressure or excess sympathetic activity, the stomach exerts pressure against or protrudes through the diaphragm, the lower esophageal sphincter relaxes, the diaphragm becomes hypertonic, and feelings of anxiety arise, all resulting in heartburn and epigastric pain. Patients that present with symptoms of heartburn and epigastric pain complicated by increased body mass index are at increased risk for HHS. In such cases, the HHS manipulation is a clinically effective and inexpensive treatment method (Appendix A). It has no side effects other than transient discomfort that may be experienced during the manipulation. Our patient's symptoms abated after performing this in-office manipulation.

The manipulation is performed by firmly contacting the epigastric area just inferior to the costosternal angle with the fingertips, resting the palm on the skin below the area of contact. The practitioner tractions toward the left ASIS and patiently feels for the tissue to begin a counter-clockwise rotation. This movement is gently followed with the fingertips while traction is maintained, sometimes as much as 2 to 3 minutes. In most cases, the rotation will switch to a clockwise direction. Once the rotation ceases, the practitioner performs 3 additional gentle and clockwise thrusts to allow the manipulation to hold more effectively.³

No studies have been performed regarding the efficacy of HHS manipulation. Clinical research is required to develop a definitive clinical recommendation regarding this therapy, particularly concerning its long-term effectiveness. Failing to continually manage ongoing risk factors may result in relapse of the condition, as was the case with this patient. Her increased body mass index, vulnerability to stress, and ongoing anxiety may have led to recurrence of her symptoms. One year later, the patient has not followed up or responded despite attempted contact.

Homeopathy is a system of medicine that involves oral administration of naturally derived, highly diluted remedies. These remedies treat symptoms on the basis of the philosophical principle, "like cures like." This principle means that a substance that causes particular symptoms in a healthy person will cure those same symptoms in an affected person. Because homeopathic remedies are indicated for unique combinations of symptoms, selection of the most fitting and effective remedy is a highly individualized matter. Homeopathic *Ignatia amara* is a remedy derived from the seed of the St Ignatius plant (*Strychnos ignatii*), native to the Philippine Islands and other parts of Southeast Asia. It is a low-cost remedy with

minimal side effects and some evidence of its efficacy in treating emotional symptoms such as depression and anxiety.⁷ It is possible that Ignatia contributed to the resolution of both her emotional and gastrointestinal symptoms.

Due to the functional connection between the psychological and gastrointestinal systems, improvement in her anxiety and depression may have influenced the relief of her gastrointestinal symptoms. One month after treatment, the patient had a recurrence of dyspepsia. The recurrence followed a stressful event in her life that may have triggered the symptoms. Although it is known that the gastrointestinal tract is affected by stress, there is no formal test to validate this causality. Nevertheless, comanagement of both mental and physical health is essential for these types of patients. Psychological therapies such as cognitive behavioral therapy and emotional freedom technique are generally effective for treating anxiety and depression.¹⁹ Other modalities such as hypnotherapy and meditation would have likely been supportive for ongoing management of her gastrointestinal symptoms.²⁰⁻²⁴ By optimizing the sympathetic-parasympathetic balance as well as the function of the hypothalamic-pituitary-adrenal axis, improved functioning of smooth muscle will enhance intestinal motility and decrease nervous system hypervigilance.

Conclusion

This case exemplifies the role that HHS manipulation, magnesium supplementation, and homeopathic medicine may play in the management of dyspepsia, constipation, and mood disorder, particularly in patients with HHS. This multifaceted treatment approach was followed by near-complete resolution of symptoms. Long-term improvement in this patient may have been hindered by inadequate follow up and the presence of underlying risk factors. Future research evaluating the benefit of these therapies is needed to determine whether they might be part of an optimal management strategy for dyspepsia, constipation and mood disorder, either singly or in combination.

Author Disclosure Statement

There are no conflicts of interest by any authors to be declared.

References

1. Heading RC. Definitions of dyspepsia. *Scand J Gastroenterol Suppl.* 1991;182:1-6.
2. Kahrilas PJ, Kim HC. Approaches to the diagnosis and grading of hiatal hernia. *Best Pract Res Clin Gastroenterol.* 2008;22(4):601-616.
3. Sandberg-Lewis S. *Functional Gastroenterology: Assessing and Addressing the Causes of Functional Gastrointestinal Disorders.* Portland, OR: NCNM Press; 2009.
4. Baroody TA. *Hiatal Hernia Syndrome: Insidious Link to Major Illness: Guide to Self-Healing.* Waynesville, NC: Holographic Health Press; 1998.
5. Bothe G, Coh A, Auinger A. Efficacy and safety of a natural mineral water rich in magnesium and sulphate for bowel function: A double-blind, randomized, placebo-controlled study. *Euro J Nutr.* 2017;56(2):491-499.
6. Murakami K, Sasaki S, Okubo H, Takahashi Y, Hosoi Y, Itabashi M. Association between dietary fiber, water and magnesium intake and functional constipation among young Japanese women. *Eur J Clin Nutr.* 2007;61(5):616-622.
7. Wasilewski BW. Homeopathic remedies as placebo alternatives: Verification on the example of treatment of menopause-related vegetative and emotional

- disturbances. *Sci Eng Ethics.* 2004;10:179-188.
8. Boericke W. *Homeopathic Materia Medica.* 3rd ed. New Delhi, India: B. Jain Publishers; 2007.
9. Talley NJ, Vakil N. Guidelines for the management of dyspepsia. *Am J Gastroenterol.* 2005;100(10):2324-2337.
10. Moayyedi P, Soo S, Deeks J, Delaney B, Innes M, Forman D. Pharmacological interventions for non-ulcer dyspepsia. *Cochrane Database Syst Rev.* 2006;CD001960.
11. Wang WH, Huang JQ, Zheng GF, et al. Effects of proton-pump inhibitors on functional dyspepsia: A meta-analysis of randomized placebo-controlled trials. *Clin Gastroenterol Hepatol.* 2007;5(2):178-185.
12. Sarkar M, Hennessy S, Yang Y-X. Proton-pump inhibitor use and the risk for community-acquired pneumonia. *Ann Intern Med.* 2008;149:391-398.
13. Johnstone J, Nerenberg K, Loeb M. Meta-analysis: proton pump inhibitor use and the risk of community-acquired pneumonia. *Aliment Pharmacol Ther.* 2010;31:1165-1177.
14. Eusebi LH, Rabitti S, Artesiani ML, et al. Proton pump inhibitors: Risks of long-term use. *J Gastroenterol Hepatol.* 2017:1-22.
15. Reilly JP. Safety profile of the proton-pump inhibitors. *Am J Health Syst Pharm.* 1999;56(23 Suppl 4):S11-S17.
16. Hunfeld NGM, Geus WP, Kuipers EJ. Systematic review: Rebound acid hypersecretion after therapy with proton pump inhibitors. *Aliment Pharmacol Ther.* 2007;25(1):39-46.
17. Lødrup AB, Reimer C, Bytzer P. Systematic review: Symptoms of rebound acid hypersecretion following proton pump inhibitor treatment. *Scand J Gastroenterol.* 2013;48(5):515-522.
18. Kines K, Krupczak T. Nutritional interventions for gastroesophageal reflux, irritable bowel syndrome, and hypochlorhydria: A case report. *Integr Med (Encinitas).* 2016;15(4):49-53.
19. Chatwin H, Stapleton P, Porter B, Devine S, Sheldon T. The effectiveness of cognitive behavioral therapy and emotional freedom techniques in reducing depression and anxiety among adults: A pilot study. *Integr Med.* 2016;15(2):27-34.
20. Wu JCY. Psychological co-morbidity in functional gastrointestinal disorders: Epidemiology, mechanisms and management. *J Neurogastroenterol Motil.* 2012;18(1):13-18.
21. Hamilton J, Guthrie E, Creed F, et al. A randomized controlled trial of psychotherapy in patients with chronic functional dyspepsia. *Gastroenterology.* 2000;119(3):661-669.
22. Goodwin RD, Cowles RA, Galea S, Jacobi F. Gastritis and mental disorders. *J Psychiatr Res.* 2013;47(1):128-132.
23. Mine K, Kanazawa F, Hosoi M, Kinukawa N, Kubo C. Treating nonulcer dyspepsia considering both functional disorders of the digestive system and psychiatric conditions. *Dig Dis Sci.* 1998;43(6):1241.
24. Calvert EL, Houghton LA, Cooper P, Morris J, Whorwell PJ. Long-term improvement in functional dyspepsia using hypnotherapy. *Gastroenterology.* 2002;123(6):1778-1785.

Appendix A: Adapted From Original Table³

Onset	Abdominal surgery. Impact of jumping. Horseback riding. Abdominal exercise. Blow to the abdomen. “Belly flop” dive. Falling from a height. Exertion with breath holding. Increased body mass index/obesity.
Symptoms	Fatigue. Mental dullness. Easy satiety. Shallow thoracic breathing. Chest oppression. Stitching chest pains. Abdominal pain. ^a Anxiety. ^a Relatively rapid respiration. Globus sensation. Dysphagia. Reflux/regurgitation. Aversion to constriction at the waist. Flatulence. “Spare tire” bulge just below the rib margin. Tickling, nonproductive cough.
Assessment	Reflex points: Left of xyphoid (HHS point). 4th ICS mid clavicular. 4th ICS mid axillary. T10-11 left paravertebral. Retest a previously strong lower extremity muscle while having the patient use both hands to press the upper abdomen inward and cephalad. If the muscle weakens, this is a positive indicator for the syndrome.
Treatment	Standing to the left of the supine patient use a left hand “claw” contact. Support the contact with your right hand. Use continuous traction toward the left ASIS and wait for the soft tissue to begin a counter clockwise rotation. Follow the rotation as it shifts to clockwise—maintaining traction. When the rotation is finished (usually 2 to 3 min at the longest), perform 3 clockwise thrusts (ballooning the stomach). Check the spine with a focus at the occiput, C3, and T10/11.

Abbreviations: HHS, Hiatal hernia syndrome.

^aNot included in original table.